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Aromatic Amino Acid Hydroxylases and Mental Disease

Edited by M. B. H. Youdim
Wiley, Chichester, 1979
x + 390 pages. £23.00

During the last two decades, interest in the aromatic amine neurotransmitters has been reflected by numerous symposia and volumes on the catecholamines and 5-hydroxytryptamine and their significance in brain disease. As far as I am aware, this is the first book published which focuses primarily on the pterin-dependent hydroxylases. Two of these enzymes, tyrosine and tryptophan hydroxylases, are specifically localised in catecholamine and 5-hydroxytryptamine neurones and have crucial roles as they are rate limiting for synthesis of these transmitters. The chapters on tyrosine hydroxylase (Weiner) and tryptophan hydroxylase (Hamon et al.) are clear accounts of the measurement, enzymology and regulatory properties of these enzymes by authors who have made major contributions to their investigation. There are also two valuable chapters on phenylalanine hydroxylase (Goodwin) and its deficiency in phenylketonuria (Blau). The latter chapter is notable for a large reference list on this intensively studied topic.

The title of the book could perhaps be taken to imply that specific roles of disturbed hydroxylase activity in mental disease are being dealt with. This is indeed the case for phenylalanine hydroxylase but not for the other enzymes as well-defined disorders of tyrosine and tryptophan hydroxylation have not been detected in mental disease. Instead we have much evidence of a more circumstantial kind that disturbances of the nervous system involving the catecholamines or 5-hydroxytryptamine are important in affective disorders and schizophrenia. Thus, the remaining chapters deal with the possible roles of catecholamines (Maas) and 5-hydroxytryptamine (Van Praag) in affective illness. These are good descriptions of extensively cultivated fields though the reference lists end in 1975. Indeed, few of the chapters are more up to date than 1976. Nevertheless, the book does contain much valuable material not reviewed elsewhere and is likely to become a standard reference.

G. Curzon

The Molecular Basis of Immune Cell Functions

Proceedings of the 13th International Leucocyte Culture

Edited by J. Gordin Kaplan
Elsevier/North-Holland; Amsterdam, New York, 1979
xvi + 782 pages. $70.75, Dfl 145.00

The title is impressive. The contents do not live up to the expectations that the title generate. The disappointment is explained partially by the subtitle. The first half of the volume consists of 'Major Presentations' (27) and the second half is 'Communications' (~100) and 'Workshop Reports' (21). In the introduction the editor claims that the lymphocyte 'remains for the present a black – or at least a very dark – box' and he concludes that 'the lymphocyte in culture is *not* a good model for the study of the molecular biology of proliferation'. The balance of presentation is meant to reflect this statement with

one third of the studies treating the lymphocyte as a model and the rest studying these cells 'because of their relevance to the phenomena of immunity'.

In a volume as long and heterogeneous as this each reader will find something of interest but it may well be the papers more distant from their own interest. For this reader the section of ten papers on the nature of lymphocyte activation events covering the role of ions, cyclic AMP and plasma membrane components were of more value than the collection of papers on immune functions of lymphocytes. While the latter group include some sound of useful papers too many subjects are covered, each one too briefly, so that most papers appear isolated and out of context. Possibly to another reader the relative values will be different.

The major problem with volumes of proceedings is that where the papers describe completed studies the full details almost always are to be found in regular journals and at best the symposium paper adds a few interesting discussion points; alternatively where the data are incomplete or speculative there is often too little in the way of experimental detail and one can only wait to see if the data finally reach a state where they can stand up to critical review. The latter remarks apply with greatest force to the short communications. It would be interesting to know how many of those teasing fragments have become full papers a year later. The workshop reports, though very brief, do convey a flavour of controversy and the range of interests in each area.

One is left with the impression that the conference was valuable for the participants but the resultant volume has much less value for the audience at large.

A. R. Williamson

Basic Exercises in Immunochemistry. A Laboratory Manual (Second Edition)

by A. Nowotny
Springer; Berlin, Heidelberg, New York, 1979
xiv + 314 pages. $19.80, DM 36.00 (paperback)

This book is a laboratory manual intended for undergraduates or post-graduates following courses in immunology and, as such, is very successful. There are 95 different exercises divided up into three major sections and Isolations and Preparations, Structural Studies (including Quantitative Methods and Analytical Determinations) and Immunological Assays. Each exercise begins with a short introduction followed by a well laid out list of materials and equipment, procedures, evaluation (a section that explains and elaborates on the findings) and finally a section on use and limitations.

Virtually all the standard techniques are described and, what is particularly important, these have been carefully tested and do work in the time taken for an average laboratory session. This, of course, has meant taking certain short cuts but it is not always made clear that this has been done. On the credit side, however, a considerable amount of attention has been paid to reducing expense and numerous suggestions for improvisation are made.

A book like this cannot stand on its own and, although each chapter contains a number of important references, it is unfortunate that it is the preface to the first edition (1969) that has been used to list the complementary books available. This means that no reference is made to such standard works as D. M. Weir's Handbook of Experimental Immunology; Part 1 Immunochemistry and the third edition of Garvey, Cremer and Sussdorf, *Methods in Immunology*. The former is an essential text for anyone who wishes to take the exercises in Nowotny's book further into research projects while the latter is the laboratory text with which it must be compared. *Methods in Immunology* is more comprehensive and more detailed and probably the better laboratory companion especially for the teacher or more advanced worker. *Basic Exercises in Immunochemistry* contains many more exercises, restricted largely and intentionally to immunochemistry, is